Amendments to the Claims

The following list of claims is intended to replace all prior versions and listings of claims in the application. Please amend claims 31-33 and 64 as indicated. Add new claims 66-67. Claims 34-63 and 65 are withdrawn as directed to non-elected inventions.

Listing of Claims

1-30(canceled).

31(currently amended). ~~A~~ An isolated and purified peptide selected from the group consisting of:

(i) a peptide consisting of all ~~or a fragment or variant~~ of an amino acid sequence from residue number 176 to 221 of a prion protein cellular form (PrP^c) sequences selected from the group shown in Figure 5;

(ii) a peptide which is a variant of the peptide defined in (i), wherein the variant consists of the sequence of the peptide defined in (i) but with one or more amino acid substitutions or deletions such that the variant has at least 90% sequence identity over a region of at least 10 amino acids with the peptide defined in (i); and

(iii) a peptide which is a fragment of the peptide defined

in (i) or (ii) and which is capable of reacting with a PrP^C-specific antibody.

32(currently amended). ~~A~~ An isolated and purified peptide as claimed in claim 31 wherein said amino acid sequence is from residue number 179 to 218 of any one of said PrP^c sequences.

33(currently amended). ~~A~~ An isolated and purified peptide selected from the group consisting of:

(i) a peptide consisting of ~~all or a fragment or variant of an amino acid sequence to about~~ ten residues which flank the disulfide bond between Cys 179 and Cys 214 in one of the PrP^c sequences selected from the group consisting of sequences shown in Figure 5;

(ii) a peptide which is a variant of the peptide defined in (i), wherein the variant is a peptide consisting of ten amino acids and having the sequence defined in (i) but with up to two amino acid variations; and.

(iii) a peptide which is a fragment of the peptide defined in (i) or (ii) and which is capable of reacting with a PrP^C-specific antibody.

34(withdrawn). A method of making an antibody comprising the steps of:

(a) administering a cellular form (PrP^c) of a prion protein

or a peptide selected from the group of peptides consisting of:

(1) all or a fragment of variant of an amino sequence from residue number 176 to 221 of a prion protein cellular form (PrP^c) sequences selected from the group shown in Figure 5,

(2) all or a fragment or variant of an amino sequence from residue number 179 to 218 of a prion protein cellular form (PrP^c) sequences selected from the group shown in Figure 5,

(3) all or a fragment or variant of an amino acid sequence to about ten residues which flank the disulfide bond between Cyc 179 and Cys 214 in one of the (PrP^c) sequences selected from the group consisting of sequences shown in Figure 5

to an animal;

(b) generating an antibody response; and

(c) collecting the antibody therefrom.

35(withdrawn). An antibody obtainable by a method as claimed in claim 34 which binds preferentially to a cellular form of a prion protein rather than a non-cellular form.

36(withdrawn). A method of making a monoclonal antibody

comprising the steps of:

(a) administering a cellular form (PrP^c) of a prion protein or a peptide selected from the group of peptides consisting of:

(1) all or a fragment of variant of an amino sequence from residue number 176 to 221 of a prion protein cellular form (PrP^c) sequences selected from the group shown in Figure 5,

(2) all or a fragment or variant of an amino sequence from residue number 179 to 218 of a prion protein cellular form (PrP^c) sequences selected from the group shown in Figure 5,

(3) all or a fragment or variant of an amino acid sequence to about ten residues which flank the disulfide bond between Cyc 179 and Cys 214 in one of the (PrP^c) sequences selected from the group consisting of sequences shown in Figure 5

to an animal;

(b) generating an antibody response;

(c) subsequently fusing an antibody producing cell from the animal with a myeloma cell to form a hybridoma; and

(d) obtaining a monoclonal antibody produced by the

hybridoma.

37(withdrawn). A monoclonal antibody obtainable by a method as claimed in claim 36 which binds preferentially to a cellular form of a prion protein rather that a non-cellular form.

38(withdrawn). A method of making a binding agent capable of binding to a cellular form of a prion protein comprising the steps of:

(a) exposing a peptide selected from the group of peptides consisting of:

(1) all or a fragment of variant of an amino sequence from residue number 176 to 221 of a prion protein cellular form (PrP^c) sequences selected from the group shown in Figure 5,

(2) all or a fragment or variant of an amino sequence from residue number 179 to 218 of a prion protein cellular form (PrP^c) sequences selected from the group shown in Figure 5,

(3) all or a fragment or variant of an amino acid sequence to about ten residues which flank the disulfide bond between Cyc 179 and Cys 214 in one of the (PrP^c) sequences selected from the group consisting of sequences shown in Figure 5

to a sample whereby any binding agent can bind the peptide; and

(b) collecting a binding agent so bound.

39(withdrawn). A method as claimed in claim 38 wherein the binding agent is an antibody.

40(withdrawn). A binding agent obtainable by the method of claim 38 which binds preferentially to a cellular form of a prion protein rather than a non-cellular form.

41(withdrawn). A method of detecting a cellular form of a prion protein using an antibody as claimed in claim 35 or claim 37 comprising the steps of:

(a) exposing a sample to the antibody;

(b) detecting binding of the antibody to the cellular form of a prion protein.

42(withdrawn). A method of detecting a cellular form of a prion protein using a binding agent as claimed in either one of claims 39 or 40 comprising the steps of:

(a) exposing a sample to the binding agent;

(b) detecting binding of the binding agent to the cellular form of a prion protein.

43(withdrawn). A method of detecting a non-cellular form of a prion protein using an antibody as claimed in either claim 35

or claim 37 comprising the steps of:

(a) exposing a sample to the antibody;

(b) exposing the sample to an agent which binds the non-cellular form of a prion protein; and

(c) detecting binding of the antibody to the non-cellular form.

44(withdrawn). A method of detecting a non-cellular form of a prion protein using a binding agent as claimed in either claim 39 or claim 40 comprising the steps of:

(a) exposing a sample to the binding agent;

(b) exposing the sample to an agent which binds the non-cellular form of a prion protein; and

(c) detecting binding of the agent to the non-cellular form.

45(withdrawn). A method of claim 43 wherein the antibody which has bound the cellular form is separated from the sample prior to step (b).

46(withdrawn). A method of claim 44 wherein the binding agent which has bound the cellular form is separated from the sample prior to step (b).

47(withdrawn). A method of claim 43 wherein the antibody agent used in one or more of steps (a) and (b) is immobilized.

48(withdrawn). A method of claim 45 wherein the antibody agent used in one or more of steps (a) and (b) is immobilized.

49(withdrawn). A method as claimed in claim 44 wherein the binding agent in one or both of steps (a) or (b) is immobilized.

50(withdrawn). A method as claimed in claim 46 wherein the binding agent in one or both of steps (a) or (b) is immobilized.

51(withdrawn). A method of removing a cellular form of a prion protein from a sample comprising the steps of:

(a) exposing the sample to an agent selected from the group consisting of antibodies and binding agents as claimed in any one of claims 35, 37, 39 or 40; and

(b) separating the sample from the agent which has bound the cellular form.

52(withdrawn). A method as claimed in any one of claims 38-40 wherein the sample consists of material selected from the group consisting of a bodily fluid and tissue.

53(withdrawn). A method as claimed in claim 52 wherein the sample is selected from one or more of the group consisting of blood, a blood component, cerebrospinal fluid, lymph, feces, urine, sputum, tissue from a lymph node, appendix, tonsil and spleen.

54(withdrawn). A method as claimed in claim 41 wherein the

sample consists of material selected from the group consisting of a bodily fluid and tissue.

55(withdrawn). A method as claimed in claim 54 wherein the sample is selected from one or more of the group consisting of blood, a blood component, cerebrospinal fluid, lymph, feces, urine, sputum, tissue from a lymph node, appendix, tonsil and spleen.

56(withdrawn). A method as claimed in claim 42 wherein the sample consists of material selected from the group consisting of a bodily fluid and tissue.

57(withdrawn). A method as claimed in claim 56 wherein the sample is selected from one or more of the group consisting of blood, a blood component, cerebrospinal fluid, lymph, feces, urine, sputum, tissue from a lymph node, appendix, tonsil and spleen.

58(withdrawn). A method as claimed in claim 43 wherein the sample consists of material selected from the group consisting of a bodily fluid and tissue.

59(withdrawn). A method as claimed in claim 58 wherein the sample is selected from one or more of the group consisting of blood, a blood component, cerebrospinal fluid, lymph, feces, urine, sputum, tissue from a lymph node, appendix, tonsil and

spleen.

60(withdrawn). A method as claimed in claim 44 wherein the sample consists of material selected from the group consisting of a bodily fluid and tissue.

61(withdrawn). A method as claimed in claim 60 wherein the sample is selected from one or more of the group consisting of blood, a blood component, cerebrospinal fluid, lymph, feces, urine, sputum, tissue from a lymph node, appendix, tonsil and spleen.

62(withdrawn). A method as claimed in claim 51 wherein the sample consists of material selected from the group consisting of a bodily fluid and tissue.

63(withdrawn). A method as claimed in claim 62 wherein the sample is selected from one or more of the group consisting of blood, a blood component, cerebrospinal fluid, lymph, feces, urine, sputum, tissue from a lymph node, appendix, tonsil and spleen.

64(currently amended). ~~A~~ An isolated and purified peptide ~~sequence~~ of a cellular form of a prion protein as claimed in any one of claims 31-33 ~~which exhibits stability~~ wherein the peptide comprises sub-structures which are in a protected hydrogen-bonded environment such that the peptide exhibits reduced

hydrogen/deuterium exchange compared to an unfolded equivalent when measured by hydrogen/deuterium amide exchange at pH 5.5.

65(withdrawn). A kit comprising an amount of one or more agents selected from the group consisting of antibodies and binding agents and detection means for carrying out a method of detecting a prion protein selected from the group consisting of cellular and non-cellular forms of prion protein.

66(new). An isolated and purified peptide as claimed in any one of claims 31-33 wherein the peptide is a variant or fragment thereof as defined therein and the variation occurs at one or more of the residue numbers of the group consisting of residue numbers 184, 186, 203, 205, 215, 219 and 220 as shown in Figure 5.

67(new). An isolated and purified peptide as claimed in claim 64 wherein the peptide is a variant or fragment thereof as defined therein and the variation occurs at one or more of the residue numbers of the group consisting of residue numbers 184, 186, 203, 205, 215, 219 and 220 as shown in Figure 5.